

C-3 WHA-TI-GREEN MOUNTAIN

HABITAT MANGEMENT PLAN



December, 1968

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Montrose District
Delta Resource Area
December 1968

Habitat Management Plan
Green Mountain Wildlife Habitat Area

1. Introduction

The authorization of the Bureau of Reclamation's Fruitland Mesa Project makes it imperative that a plan be initiated for the purpose of mitigating the loss of deer winter range on the area to the extent possible. This plan has been prepared on the basis that the project will be completed and the management decisions for the surrounding area have been determined.

Briefly, the management decisions pertaining to wildlife are as follows:

1. Management of the Federal lands outside the project area will be oriented primarily toward production of forage for use by wintering deer.
2. A scenic buffer will be established next to the Black Canyon National Monument to maintain the vegetative aspect in its natural state.
3. Livestock use will be adjusted to the grazing capacity of the remaining lands presently in Federal ownership.

Detailed management will be initiated, involving adjustments in class of stock, season of use and a grazing system designed to optimize production of forage for wintering deer.

4. In no case will development practices be designed or initiated that may have an adverse effect on future recreational values.

5. Public access will be assured for sport harvest and non-consumptive wildlife use.

The boundaries of this WHA are based on the biological limits of the winter range of the State Big Game Management Unit #63 which includes approximately 84,750 acres broken down as follows:

20,540 acres - Federal Range

21,500 acres - Fruitland Mesa Project Area

6,400 acres - National Monument

36,310 acres - Private, including proposed acquisition

2. Management Objectives

General - To provide for improving and extending the geographic range of the deer habitat to mitigate the loss of deer winter range which will result from development of the Fruitland Mesa Project.

To maintain and improve the quality of deer winter range through management and development. To reserve the annual browse production for wintering deer.

To provide maximum opportunity for sport harvest and non-consumptive wildlife use.

To preserve the esthetic values to the Black Canyon National Monument and protect the vegetative resource on the Monument from overuse by deer.

To provide reasonable public access over the south half of the area for adequate hunter harvest and non-consumptive wildlife use.

Specific - To maintain or improve the composition and density of the various vegetative types on the key areas as follows:

Key Area #1 - North of Nat'l. Monument & South of Mesa Rim

Maintain the composition of ____% Sage, ____% Oak and maintain a shrub cover density of ____%.

Key Area #2 - North of Mesa Rim and South of Reclamation Project Area

Maintain the composition of ____% Sage, ____% Oak and ____% Serviceberry. Maintain a shrub cover density of ____%.

Key Area #3 - North of Green Mountain

Maintain the composition of ____% Sage, ____% Oak and ____% Serviceberry. Maintain a shrub cover density of ____%.

Key Area #4 - South of Green Mountain Res. #1

Maintain the composition of _____% Sage, _____% Oak and _____% Serviceberry. Maintain a shrub cover density of _____%.

Key Area #5 - North of Red Canyon

Improve the shrub composition from _____% Sage to _____% Sage, from _____% Pinion Juniper to _____% Pinion Juniper. Chain and seed to Mountain Mahogany, 4-Wing Saltbush and Legume Forbs.

3. Management Methods

A. Livestock Grazing

Since the livestock use is by both cattle and sheep during the late summer, fall and winter, there is direct competition for the annual browse production. Sheep use during this period will be either converted to cattle use, shifted to other areas, or terminated. Cattle use will follow a grazing system which is designed to help meet the objectives of this plan.

Livestock grazing is a major tool by which the vegetative composition can be regulated. With this in mind, the use made by livestock will benefit the range for game and also sustain production of the present non-competitive vegetative cover for livestock forage and watershed protection.

Although grazing privileges will not be allocated on any subsequent acquired lands, spring grazing will be desirable periodically in order to discourage competition between the perennial grass and browse. All such use will be on a temporary non-renewable license or by other arrangement.

B. Wildlife Use

The Colorado Game, Fish & Parks Division, with Commission approval, will initiate and carry out the changes in the deer population necessary to meet the objectives of this plan.

Specifically this will include:

1. Attempt to reduce the herd to the grazing capacity of the winter range outside the Reclamation project at the time the project is funded and prior to actual loss of the habitat.

2. Recommend to the Commission season and methods of obtaining adequate harvest in line with the management objectives. This will be based on the cooperative habitat evaluation studies as well as other population studies initiated by the Division.

C. Habitat Improvement

Following is a breakdown of the improvement projects which will be initiated at the time the Reclamation project

is funded and the deer herd is reduced to the proper level:

| <u>Project Name</u> | <u>Units</u> | <u>Cost</u> | | |
|------------------------|------------------|--------------|------------------|---------------|
| | | <u>BLM</u> | <u>CGF&P</u> | <u>Total</u> |
| ack Canyon Chaining #1 | 760 ac. | 4,920 | 4,920 | 9,840 |
| ack Canyon Chaining #2 | <u>1,000 ac.</u> | <u>6,475</u> | <u>6,475</u> | <u>12,950</u> |
| | 1,760 ac. | \$11,395 | \$11,395 | \$22,790 |

For locations see the project estimates in the Appendix.

D. Access Development, Improvement and Management

No road development is necessary for there is an adequate number of roads into the area. However, access is not assured on some of these roads although they are presently being used by the public and many of the roads already are blocked by locked gates. Easements should be obtained to assure access to the public on all roads already with locked gates and on those that could be blocked.

Most of the roads do need some form of maintenance work. Installation of water bars, some grading, and some graveling on the heavier soils would put these roads in a satisfactory condition for our present needs.

E. Land Acquisition, Classification and Withdrawal

It is proposed that 10,480 acres of private land be acquired through Sec. 8 of the Upper Colorado River Storage Act. These lands are identified on the map in the Appendix. If and when these lands are acquired, they will be withdrawn and segregated from all agricultural and mining laws. The proposed Memorandum of Understanding for preserving a scenic buffer adjacent to the Black Canyon National Monument will have to be worked out with the National Park Service.

It is proposed that 200 acres of BR withdrawn land be returned to this Bureau for the purpose of increasing the width of the area for migrating deer at the southwest corner of the Reclamation project. The location of this land is shown on the attached map.

Federal lands have been classified for retention as Type I.

F. Management Evaluation

The key species are Sage, Oak and Serviceberry.

The annual forage production and utilization by deer will be conducted in accordance with Step 4 of the Game Range Analysis Procedures developed cooperatively by the Inter-agency Council on Wildlife Ecology.

These studies will be located on the 5 key areas, as shown on the map, and read annually.

Pellet group counts will be conducted on these key areas. In addition, pellet group counts will be made independently on the west side of the WHA to determine the relative amount of use and annual shifts in use on that area. Before and after counts will be made on the initial P-J chaining areas to determine if substantial use will be made of the improvements. Such studies will aid in determining if the development projects are effective in providing additional forage and should be continued.

Aerial flights will be initiated in the winter of 1968-69 to identify areas of use and to provide data on herd composition and production.

The extent of such additional pellet group counts and aerial flights will depend on the annual funds and manpower limitations of each agency.

Habitat condition and trend studies will be conducted on a five year cycle or more frequently if there are indications from the annual production studies that relatively rapid changes in the plant composition are taking place.

The condition and trend studies will be conducted in accordance with Bureau procedures as outlined in Part 6630 of the Manual.

The following forms will be used:

1. Form 6630-1 - Stand Composition Transect Record
2. Form 6630-2 - Key Browse Species Transect
(The form Class portion of this form will be used only)
3. Form 6630-3 - Summary, Key Browse Species Condition
4. Form 6630-4 - Soil Stability Condition
5. Form 6635-1 - Summary, Habitat Condition and Trend.

These studies will be located on the 5 key areas and all studies will be initiated in the fall of 1969.

Permanent photo stations will be established in conjunction with the condition and trend studies.

Each photo station will be established using the same procedures as outlined in Part 4412.22C of the Manual, Physical Resource Studies, and will be recorded on Form 6630-1.

The paced Transect Method will be used for determining stand composition.

The form class studies will be conducted on the same permanent transects as used for the annual production and utilization studies.

Pellet group counts will be made on permanent transects.

Composition and density studies will be rated satisfactory or unsatisfactory by comparing the percentages of the key species with the specific objectives outlined above.

* The estimated annual personnel time and cost for conducting these studies is as follows:

1 Permanent employee, 6 days - 48 hours

Personnel Cost - \$200

Vehicle Cost - \$ 35

Per Diem - \$ 60

Total Cost \$ 295

* BLM participation only

G. Implementation Schedule and Cost Estimate

Following is the sequence for implementation after the Fruitland Mesa project is funded:

1. Implement AMP(s) and request the Colorado Game, Fish & Parks Division to adjust harvest to reduce the deer herd to the capacity of the remaining winter range.

2. Initiate evaluation studies as outlined under Part F of this plan.

3. Start habitat development work in conformance with schedule outlined on Form 1610-28 in the Appendix.

Game Management #63 contains approximately 126,000 acres of land. Winter range makes up better than half the area - 84,750 acres. Of the winter range, BLM administers 20,540 acres which is estimated to contribute 2,310 hunter days. The total winter range, being the controlling factor in the unit, has an estimated 9,623 hunter days.

The Fruitland Mesa project will take out 21,500 acres of winter range rated at 2,406 hunter days. To mitigate some of this loss, 10,000 acres of private land would be acquired and managed by BLM along with the aforementioned public land. Elimination of livestock competition and some habitat development on these lands would regain 1,896 hunter days, or all but 510 hunter days.

In comparing costs and benefits, the net benefits attributable to the cost of implementing the project are valued in accordance with Manual 9520. Intangible benefits classified as non-consumptive use have not been estimated. It is a fact, however, that some value exists in just being able to observe wildlife in their natural environment.

Costs

| | |
|---|----------|
| 1,760 acres chaining and seeding - - | \$22,790 |
| Annual equiv. factor @ 3-1/4% - - | .05904 |
| Annual equiv. cost - - | \$1,346 |
| Annual maintenance and supervision cost - - | \$750 |
| Total annual equiv. cost | \$2,096 |

Benefits

1,896 hunter days @ \$5.00 = \$9,480
B/C = 4.5/1

H. Provision for Review and Modification

The objectives and methods outlined in this plan will be reviewed jointly by the District BLM and Regional Colorado Game, Fish & Parks personnel periodically and updated by mutual agreement in accordance with Part 2, Page 6 of the BLM-CGF&P Memorandum of Understanding dated April 26, 1966.

I. Maps

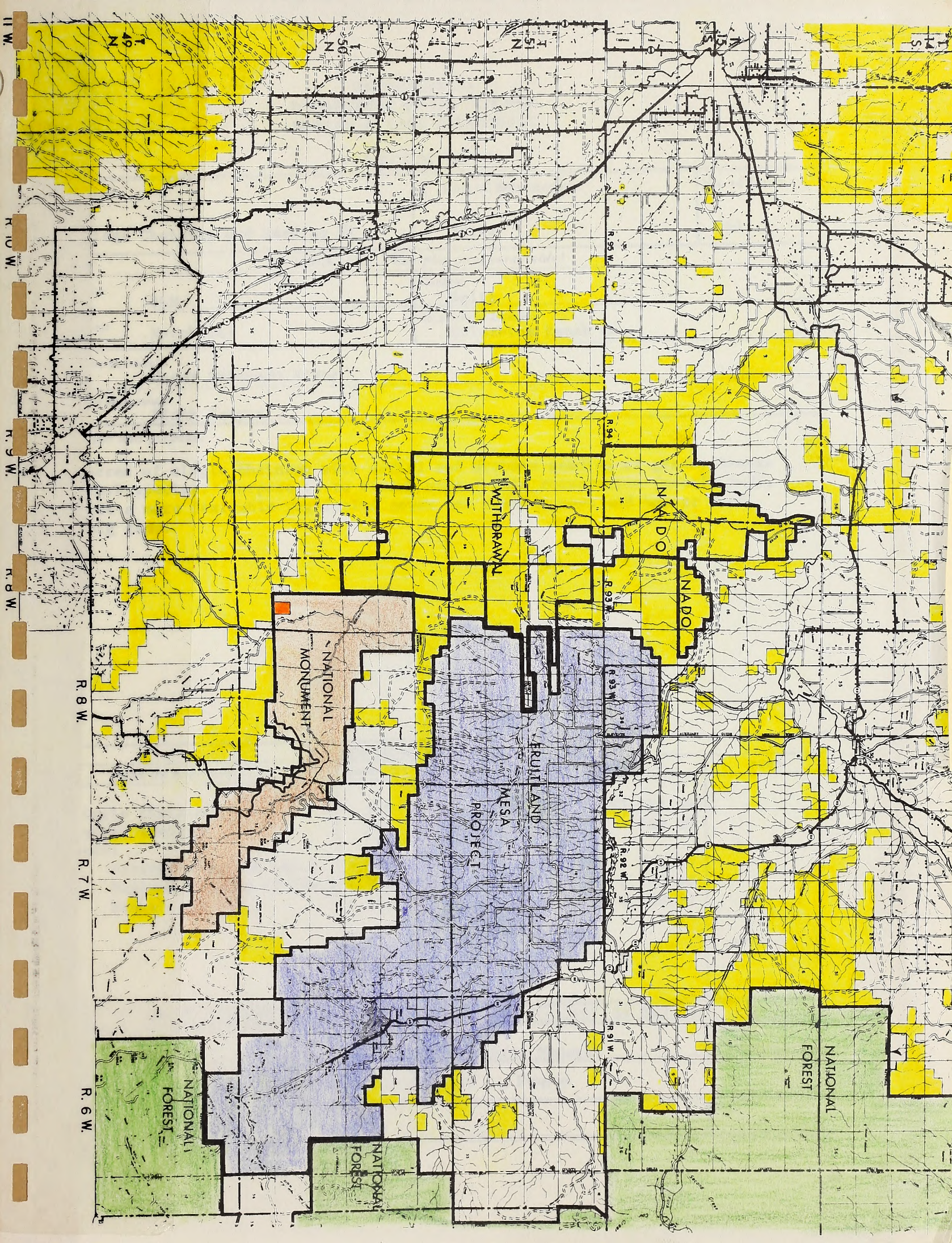
A map is located in the WHA file which shows land status, WHA boundary, development projects, key areas, and evaluation study locations.

A general orientation map is included in the appendix.

APPROVED:

District Manager

Date



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

PROJECT ESTIMATE

| | | |
|--|------------------------|--------------|
| 1. Project Name | 2. Unit of Measurement | No. of Units |
| Black Ridge Chaining and Seeding #1 | acres | 760 |
| 3. LOCATION (Use plat on reverse side) | | |
| Land Status | County | |
| BLM | Delta | |
| Grazing Unit | Allottee or Lessee | |
| Hotchkiss | Columbine Ranch Co. | |
| Major River Sub-basin | | |
| Upper Colorado River | | |
| Community Watershed | | |
| P.U. Black Canyon | | |

4. Description and purpose:

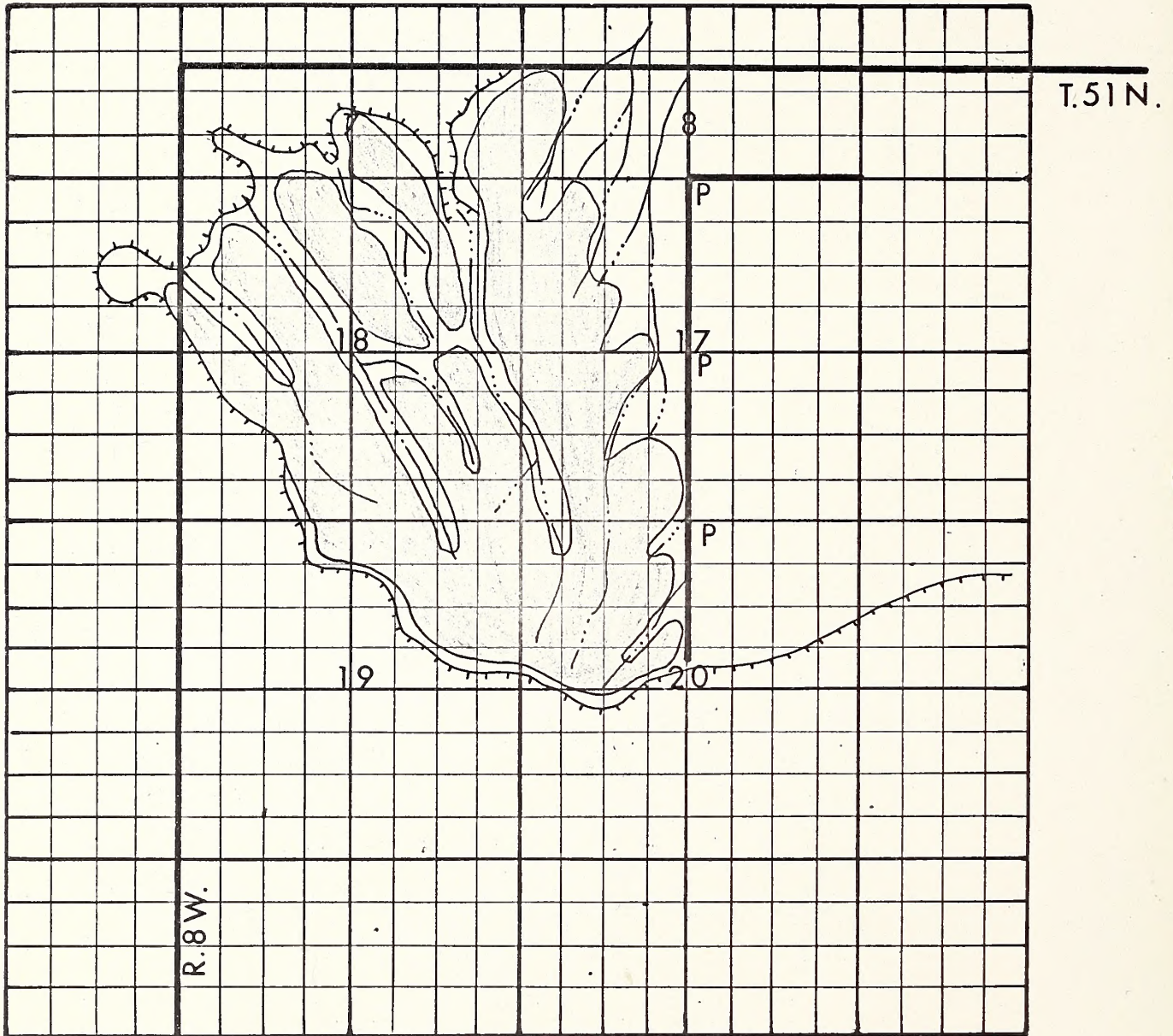
760 acres of single chaining with aerial and dribble seeding of grass, browse and forb species. Purpose is to remove undesirable competition (mostly P-J), provide a more desirable vegetative cover and provide more and better feed for big game.

| 5. ITEM OR WORK UNIT COSTS | | | | | |
|---|----------|------|--------------------|------------|------|
| ITEM OR WORK UNIT | QUANTITY | UNIT | UNIT COST | TOTAL | FUND |
| 1.) Single chaining | 760 | ac. | \$4.00 | \$3,040.00 | |
| 2.) Aerial seeding | 760 | ac. | 1.00 | 760.00 | |
| 3.) Seed: | | | | | |
| Crested wheat (4 lbs.) | 3,040 | lbs. | .30 | 912.00 | |
| Dryland alfalfa (2 lbs.) | 1,520 | lbs. | 1.50 | 2,280.00 | |
| Browse (1½ lbs.) | 1,140 | lbs. | 2.50 | 2,850.00 | |
| PROJECT GRAND TOTAL | | | | \$9,842.00 | |
| Prepared by | | | Title | Date | |
| R. E. Vecchia | | | Delta Area Manager | 11/22/67 | |
| Approved for inclusion in Project Work Schedule: Fiscal Year 19 , Program | | | | | |
| Signature of District Manager | | | | | Date |

LOCATION PLAT
PROJECT LOCATION

See Plat
1/4 1/4, Section _____, Township 51N, Range 8W, N.M. Prin. Meridian

Scale 2 inches equal one mile



Remarks:

— Proposed Chaining

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PROJECT ESTIMATE

| | | |
|---|---|--------------|
| 1. Project Name | 2. Unit of Measurement | No. of Units |
| Black Ridge Chaining and Seeding #2 | Acres | 1000 |
| 3. LOCATION (Use plat on reverse side) | | |
| Land Status BLM | County Delta | |
| Grazing Unit Hotchkiss | Allottee or Lessee Columbine Ranch Co. | |
| Major River Sub-basin Upper Colorado River | | |
| Community Watershed P.U. Black Canyon | | |

4. Description and purpose:

1,000 acres of single chaining and aerial (and dribble) seeding with grass, browse, and forb species. Purpose is to remove undesirable competition, (mostly P-J) provide a more desirable vegetative cover and provide more and better forage and browse for big game.

5. ITEM OR WORK UNIT COSTS

| ITEM OR WORK UNIT | QUANTITY | UNIT | UNIT COST | TOTAL | FUND |
|--------------------------|----------|------|-----------|-------------|------|
| 1.) Single chaining | 1,000 | ac. | \$4.00 | \$4,000.00 | |
| 2.) Aerial seeding | 1,000 | ac. | 1.00 | 1,000.00 | |
| 3.) Seed | | | | | |
| Crested wheat (4 lbs.) | 4,000 | lbs. | .30 | 1,200.00 | |
| Dryland alfalfa (2 lbs.) | 2,000 | lbs. | 1.50 | 3,000.00 | |
| Browse (1½ lbs.) | 1,500 | lbs. | 2.50 | 3,750.00 | |
| PROJECT GRAND TOTAL | | | | \$12,950.00 | |

Prepared by

R. E. Vecchia

Title

Delta Area Manager

Date

11/22/67

Approved for inclusion in Project Work Schedule: Fiscal Year 19 , Program

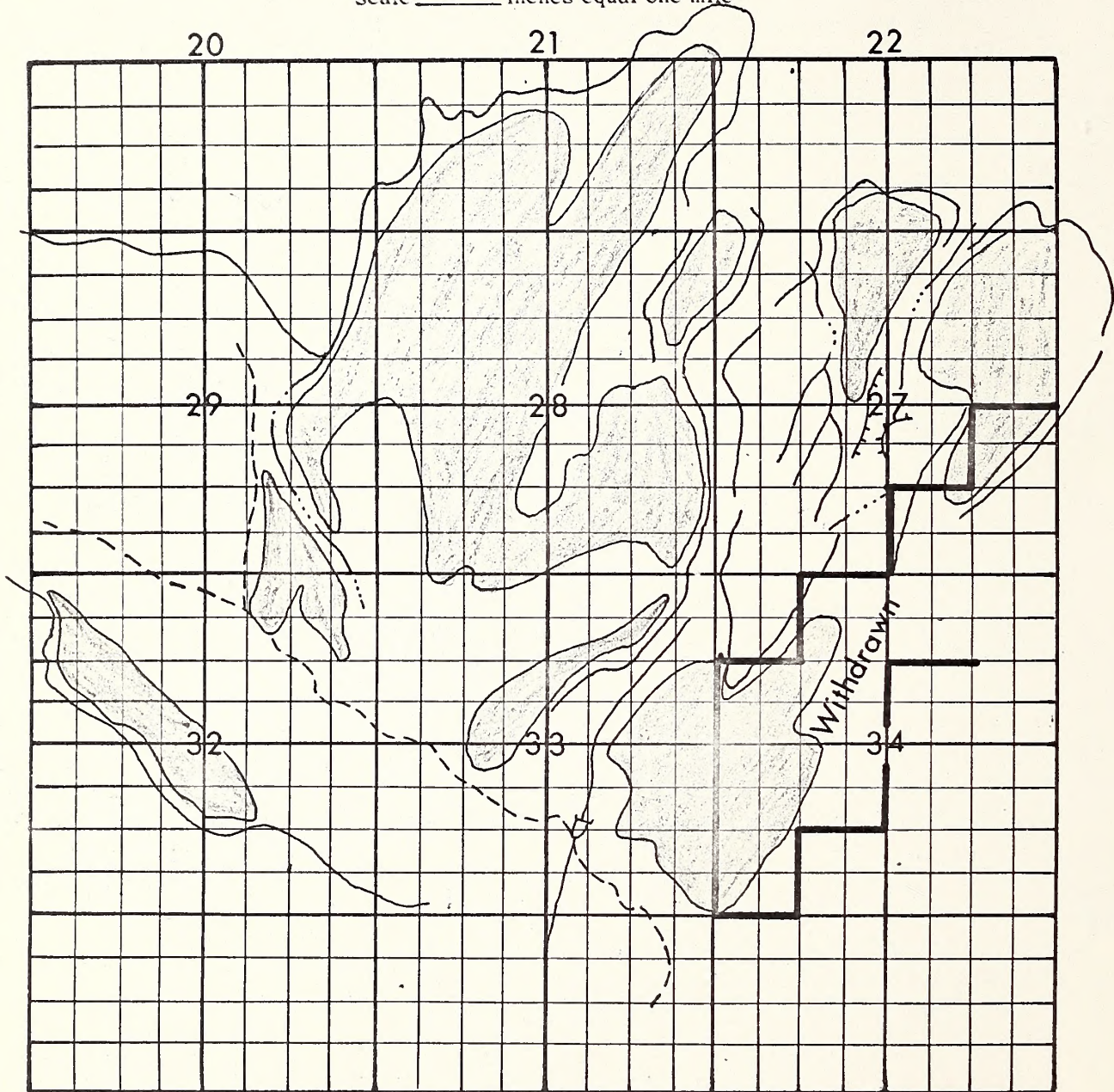
Signature of District Manager

Date

LOCATION PLAT
PROJECT LOCATION

See Plat
1/4 1/4, Section _____, Township 15S, Range 93W, 6th Prin. Meridian

Scale 2 inches equal one mile



Remarks: Acreage estimate does not include the land under withdrawal.

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Wheeler Service Center

ROUTING AND TRANSMITTAL SLIP

JUN 29 '69

| TO | | | ACTION | ROOM NO. |
|------|----------------------------------|--------------|----------|----------|
| CODE | NAME | ORGANIZATION | | |
| | <i>Director, DSC</i> | | <i>8</i> | |
| | <i>ATTN: <u>RSE</u> Wildlife</i> | | | |
| | <i>staff</i> | | | |
| | | | | |
| | | | | |

Indicate Action by Number

- | | |
|----------------------------|-----------------------|
| 1. Necessary action | 6. Note and surname |
| 2. Approval | 7. Note and return |
| 3. Signature | ⑧ 8. Your information |
| 4. Prepare reply | 9. See me |
| 5. Your comment and return | 10. |

| | | |
|-------------------------------|------------------------|----------|
| From <i>Paul Applegate</i> | Date <i>1-28-69</i> | Room No. |
| Office <i>C50</i> | | Phone |

Remarks

I Goofed on the ones in the C-3 WHA T-1. These are corrected copies. The old figures were worked up for the B/c analysts and don't show the actual cash costs for programming.

UNITED STATES
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PROGRAM PACKAGE COVER SCHEDULE

| | | | | | | | |
|------------------------------------|----|------|--------|----------|--------|----------|--------------|
| PACKAGE IDENTIFICATION | | | | LOCATION | | Priority | Package Life |
| STATE | PY | TYPE | SERIAL | DISTRICT | COUNTY | | 25 Years |
| Package Name Green Mountain HMP | | | | | | | |
| Package Type | | | | | | | |

| | BUDGET YEAR FY 1 | PROGRAM YEAR FY 2 | PROGRAM YEAR FY 3 | PROGRAM YEAR FY 4 | PROGRAM YEAR FY 5 | PROGRAM YEAR FY | TOTAL (For Package Life) | ANNUAL AVERAGE |
|---|--------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|-----------------------------|-------------------|
| A. COST DATA | \$100's | \$100's | \$100's | \$100's | \$100's | \$100's | \$100's | |
| 1. Direct Costs (Form 1610-28) | 23,540 | 750 | 750 | 750 | 750 | - | 41,540 | |
| 2. Leave Surcharge | | | | | | | | |
| 3. Program Services | | | | | | | | |
| 4. Equipment (Form 1610-20) | | | | | | | | |
| 5. TOTAL COST | 23,540 | 750 | 750 | 750 | 750 | - | 41,540 | |
| 6. Travel (include above) | | | | | | | | |
| B. MANPOWER DATA (Form 1610-32) | MAN-MONTHS | MAN-MONTHS | MAN-MONTHS | MAN-MONTHS | MAN-MONTHS | MAN-MONTHS | MAN-MONTHS | |
| 1. New | | | | | | | | |
| 2. Reprogrammed Existing | 2.75 | .75 | .75 | .75 | .75 | .75 | | |
| 3. TOTAL | 2.75 | .75 | .75 | .75 | .75 | .75 | 21 | |
| C. OUTPUT DATA * | QUANTITY | QUANTITY ADDED | QUANTITY ADDED | QUANTITY ADDED | QUANTITY ADDED | QUANTITY ADDED | QUANTITY ADDED | QUANTITY ADDED |
| 1. Hunter days | - | - | - | * 1,896 | 1,896 | 1,896 | 47,400 | 1,896 |
| 2. *Totals averaged out over 25 year period | | | | | | | | |
| 3. | | | | | | | | |
| 4. | | | | | | | | |
| 5. | | | | | | | | |
| 6. | | | | | | | | |
| 7. | | | | | | | | |

* Description of Output

Green Mountain HMP

| | | | | | | | |
|-------|--|----|--|------|--|--------|--|
| | | | | | | | |
| STATE | | PY | | TYPE | | SERIAL | |

GPO 146-085

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PROGRAM PACKAGE INPUTS SCHEDULE

PACKAGE IDENTIFICATION

| | | | | | |
|-------|----|------|--------|--|--|
| | | | | | |
| STATE | PY | TYPE | SERIAL | | |

[illegible]

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PROGRAM PACKAGE INPUTS SCHEDULE

Green Mountain HMP

[illegible]





Photo #1 - Fruitland Mesa Project Area

This area encompasses most of the better deer winter range for this herd unit. The major browse species include oak, serviceberry, mountain mahogany, big sage and black sage. Note the interspersion of the shrubs.



Photo #2 - Black Canyon National Monument

This view is from the north side of the canyon. Access to this point is by improved dirt road through Grizzly Gulch. There are both campgrounds and scenic overlooks located on the north side of the canyon.



Photo #3 - View of Area North of the Monument

This view includes a portion of the area the National Park Service wants left in its natural state for a scenic buffer. Most of the area between the canyon rim and the skyline is privately owned. Acquisition of this land would guarantee this scenic buffer, provide additional deer winter range, protect the migration route which is important for use of the west area, and improve harvest. This area is referred to as the West Area in the Intensive Inventory and Analysis and the HMP.



Photo #4 - Private Land North of Monument Boundary

This view is looking north and shows the interspersion of the shrubs. Management of this area will be oriented toward accomplishing the plan objectives through management rather than cultural development practices.



Photo #5 - Narrow Area Between Reclamation Project and Canyon Rim

This view is looking north at the point where the access to the west area is most narrow. The project boundary is at the lower end of the clearing. The completion of the Fruitland Mesa Project could have an adverse effect on the deer movement through this narrow area.



Photo #6 - Narrow Area Between Reclamation Project and
Canyon Rim

This view is looking south and shows the steep
topography to the canyon.



Photo #8 - Juniper Site on Canyon Rim

Although this site does not produce a substantial amount of deer forage, it is used for bedding by the summer resident deer. The area is comparatively small and may be more valuable for cover and as a natural area than for browse production.



Photo #9 - Scenic Overlook on Rim Looking South

Because of the scenery and the unique juniper stand along the canyon rim, this area may have future values for recreation other than hunting.



Photo #10 - Heavy Grazing Use on Mountain Mahogany

Several sites along the south rim are concentration areas for deer. Mountain mahogany is a preferred browse species on those sites.



Photo #11 - Heavy Grazing Use on Serviceberry

The hedged form of this serviceberry is caused by heavy livestock use/[&]concentration. Note the dead sage and sparse understory of grass. Such areas are relatively small and generally associated with watering facilities.



Photo #12 - Private Land Showing Browse Variety and Interspersion

This is typical habitat on much of the private land between the Reclamation project and the monument boundary. Note the excellent cover "arrangement" and variety of shrubs including oakbrush, serviceberry, and sage.



Photo #13 - Browse Variety and Interspersion on
Federal Land

Very little can be done mechanically to improve this excellent habitat. On such sites proper livestock and game management is the key to keeping the habitat in its most productive condition for the wintering deer.



Photo #14 - Access Road

This is a typical access road into the area. Installation of water bars, grading and perhaps a limited amount of graveling on the heavier soils will be adequate at the present time.



Photo #15 - Pinion-Juniper Stand on West Side of Area

Areas such as this can be improved through chaining and browse seeding. This particular site is steeper than many of the P-J sites.

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